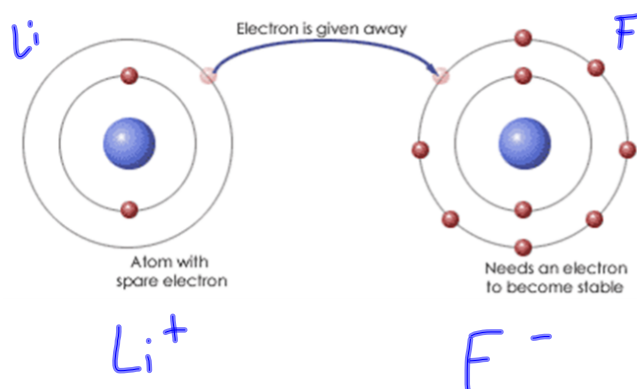


• Ionic Bonds:

- Formed when one atom gives away e^- and other atom takes e^-



• Ionic bonds :

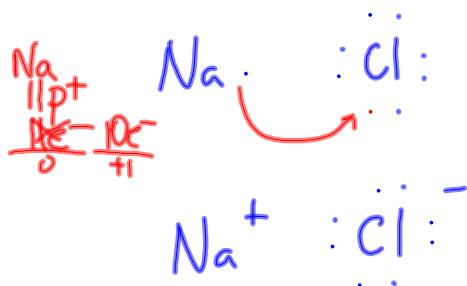
- Occur between a metal and a non-metal
- Occurs between two oppositely charged atoms

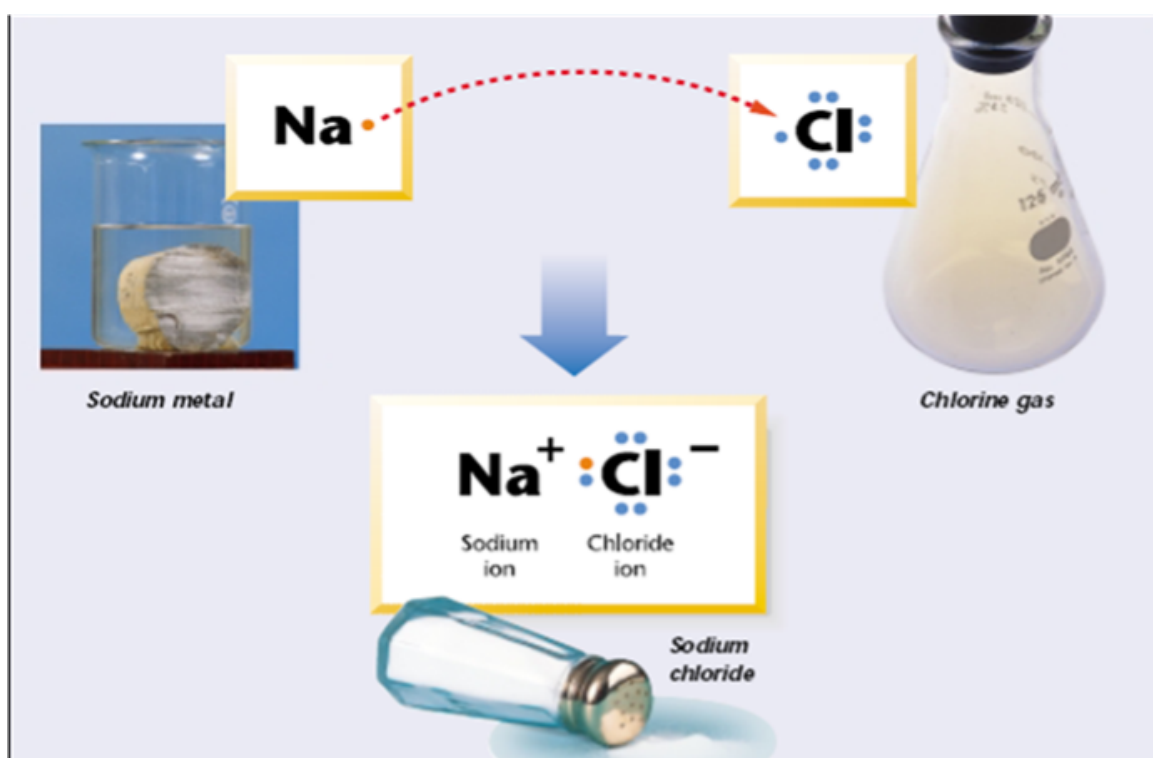
• Drawing Ionic Bonds:

- Use NaCl as example



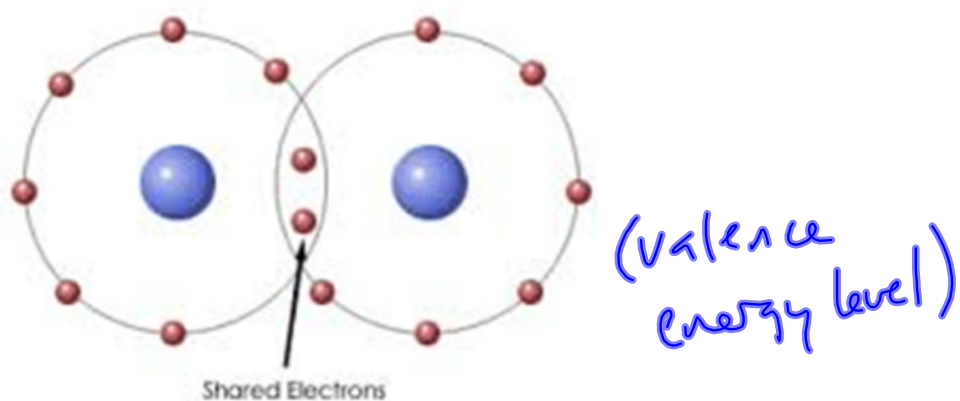
2. Draw Lewis Dot Structure





- Properties of Ionic Bonds:
 - Stronger bonds
 - Compounds formed have high melting points
 - Conduct electricity in a solution (mixed with water) or in liquid state
 - Generally dissolve in water
 - Generally crystalline at room temperature

- Covalent Bonds:
 - Occurs between two non-metals
 - Formed when atoms share electrons
 - Can be between two different elements or two atoms of the same element
 - Two of the same element is called a molecular compound
AKA → molecule

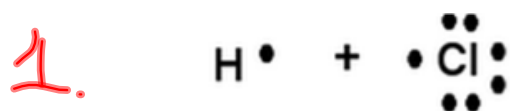


F \uparrow F (or any halogen)

"double count" shared electrons
to get atoms to full valence energy level

- Drawing Covalent Bonds:
 - Example: HCl

1. Draw Lewis Dot Structure
2. Draw electrons being shared
3. Draw each covalent bond as a line between the atoms



↑
line implies $2e^-$

- Properties of Covalent Bonds:
 - Weaker bonds
 - Low melting and boiling points
 - Do NOT conduct electricity in solution
 - Generally don't dissolve in water
 - Generally gases and liquids at room temperature

Noble gases:

- Are the most stable elements
- They have 8 valence electrons and don't want to gain or lose any electrons

Chemical Bonds

- Only involves electrons (nucleus doesn't matter)
- Elements will not just lose or gain e^-
- They will give to another element or take from another element.
- There will always be at least 2 elements involved

Binary Cmpd = Cmpd with only 2 elements
NaCl CaCl₂ K₂S

Types of Chemical Bonds

- There are 3 diff. ways that 2 or more atoms can interact or bond.
- This bonding will always end in a new compound with new chemical properties.

3 types: ionic; covalent; metallic

